

1 What is claimed is:

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3 1. An apparatus for transporting ions from a first pressure
4 region to a second pressure region within a mass spectrometer,
5 wherein said apparatus comprises:
6 first and second capillary sections each having an
7 inlet end and an outlet end; and
8 a union having first and second openings;
9 wherein said outlet end of said first capillary section is
10 removably positioned within said first opening of said union, and
11 wherein said inlet of said second capillary section is removably
12 positioned within said second opening of said union.

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14 2. An apparatus according to claim 1, wherein said first
15 section comprises a channel having a helical structure.

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17 3. An apparatus according to claim 1, wherein said union
18 comprises means for removably securing said ends of said first
19 and second sections.

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21 4. An apparatus according to claim 1, wherein said union

1 comprises means for providing an airtight seal between said ends
2 of said first and second sections within said union.

3 5. An apparatus according to claim 1, wherein said inlet ends
4 and said outlet ends comprise conductive end caps.

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6 6. An apparatus according to claim 1, wherein said ions are
7 transported from an ionization source into a first vacuum region
8 of a mass spectrometer.

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10 7. An apparatus according to claim 6, wherein said ionization
11 source is an API source.

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13 8. An apparatus according to claim 6, wherein said ionization
14 source is an ESI device.

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16 9. An apparatus according to claim 6, wherein said ionization
17 source is a pneumatic assisted electrospray source.

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19 10. An apparatus according to claim 6, wherein said ionization
20 source is an electron impact source.

1 11. An apparatus according to claim 6, wherein said ionization
2 source is a chemical ionization source.

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4 12. An apparatus according to claim 6, wherein said ionization
5 source is a matrix assisted laser desorption ionization source.

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7 13. An apparatus according to claim 6, wherein said ionization
8 source is a plasma desorption source.

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10 14. An apparatus according to claim 6, wherein said ionization
11 source uses liquid chromatography.

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13 15. An apparatus according to claim 1, wherein said apparatus is
14 used to multiplex sample materials.

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